

Situation Analysis of Patient Load at a District Hospital of eastern-northern Rajasthan

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Abstract— *Picture of public district hospitals is usually is as underused, inefficient and providing poor quality care. So this study was aimed to assess patient load at district level hospital. For the study purpose a district hospital of Eastern-northern Rajasthan was selected and this study was conducted in year 2014 at R.K. Joshi District hospital Dausa (Rajasthan) India. Information about general activities like outdoor, indoor, operations, investigations etc were collected. Other activities like reproductive and child health activities, family welfare activities, immunization activities, Zanani Suraksha Yozana activities etc were also collected. It was found in this study that total 454596 outdoor cases and 31706 indoor cases of various diseases were attended in this year. Bed occupancy rate was 334.64 with average hospital stay 3.2 days. Total 151127 laboratory tests were done in hospital. Total 3003 minor and 474 major operations were performed. In this year 251 Laparoscopic Sterilization, 5 Tubectomies and 4 Vasectomies were done along with other family welfare activities. Total 5312 institutional deliveries were performed and these women were benefited by ZSY.*

Keywords— *Patient Load, Situation Analysis, District Hospital, ZSY*

I. INTRODUCTION

Health systems are often organized in a "hub-and-spoke" arrangement, with a large district hospital (the hub) having more and better-trained personnel and better equipment than more peripheral clinics (the spokes). If public district hospitals remain underused, inefficient, and providing poor quality care may reflect deficiencies in the entire health system as well as at the hospital level.¹

The World Health Organization^{2,3} envisages that a district hospital should be able to offer diagnostic, treatment, care, counseling, and rehabilitation services provided by predominantly generalist practitioners various disciplines like medicine, surgery (including trauma and orthopedics), obstetrics, mental health, ophthalmology, ENT, pediatrics, geriatrics, rehabilitation and primary health care. Such hospitals will usually provide 24-hour care and be integrated into the district health system at a wider level to provide or support a range of services like health of persons of district with its detailed information, implementation of peripheral primary health care policies, administrative and logistics support to primary health care efforts, communication with the community, curative and chronic care for patients referred from peripheral units, district laboratory services, training and continuing medical education of health workers and students, links between health and other development agenda, development of local solutions to local health problems. Additionally, although the focus has often been on district hospitals as recipients of referrals, a much more dynamic relationship has been proposed⁴ for many PHC activities such as immunization programs the district hospital is both a provider of services and a coordinating center for information and supplies.

So in this way a district hospital has to perform various type of activities in various type of fields related to health. These district hospitals seems to be overburdened as per their designated services and areas to work. So this study was conducted in R. K. Joshi district hospital, Dausa to assess this burden.

II. METHODOLOGY

This present cross-sectional, descriptive study was conducted in the Ramkaran Joshi District Hospital, Dausa (Rajasthan) India. Data for this study was collected since 1st Jan 2014 to 31st Dec. 2014.

Figure 1: Map of Rajasthan showing Dausa District



Information about general activities like outdoor, indoor, operations, investigations etc were collected. Other activities like reproductive and child health activities, family welfare activities, immunization activities, Zanani Suraksha Yozana activities etc were also collected. For making ensure monthly and yearly reports send to CMHO and DMHS were also observed. Final data regarding various activities conducted at district hospital were collects and anlysed to reveal the burden on this district hospital.

III. RESULTS

In year 2014, total OPD cases attended were 4,54,596 and 31706 were admitted in various wards of hospital having Outdoor: Indoor ratio 14.34. Total operations 3401 were done in year 2014. Majority i.e. 3019 (89.06%) of operations done in surgery department followed by sterilizations and eye operations. 1605 ANCs were attended in hospital those were in addition to OPD cases 5312 institutional deliveries were conducted. all these institutional deliveries were benefited by JSY. Likewise 1404 Medico legal cases (MLCs) and 218 post-mortem was conducted at district hospitals that is also additional to OPD cases. Blood unites collected at blood bank was 2320 unites and disability certification was done of 1051 individuals which was also in addition to patient care. (Table 1)

Table 1

Patient Load in various departments of District Hospital

S. No.	Various Departments	Patient Load
1	OPD	4,54,596
2	IPD	31,706
3	Surgery OT	3029
4	Eye OT	112
5	Sterilization Operations	260
6	ANCs	1605
7	Institutional Deliveries	5312
8	MLC	1404
9	Post-mortem	218
10	Disability Certification	1051
11	Blood Bank (Collection)	2320 Unite

Bed occupancy of this hospital was 333.64 and average duration of hospital stay of patients was 3.2 days. (Table 2)

Table 2

Hospital Indicators of District Hospital

S. No.	Hospital Indicators	Hospital Indicators value
1	Bed Occupancy Rate	334.64
2	Mean Hospital Stay	3.2 Days

Among various 493759 investigations done at district hospital in year 2014, laboratory tests were maximum i.e. 92.07% followed by X-Rays, ECG and USG . (Table 3)

Table 3

Types of Investigation done at District Hospital

S. No.	Types of Investigation	Patient Load	% of Investigation Load
1	Laboratory test	454596	92.07
2	X-Rays	31706	6.42
3	USG	3029	0.61
4	ECG	4428	0.90
5	Total	493759	100.00

During year 2014, total 3496 blood slides were examined for malaria in this hospital. Out of these 3496 blood slides, 152 were found positive for malaria depicting Slide Positivity Rate 4.35%. Likewise it was also revealed that these 152 malaria positive includes 4 Plasmodium Falciparum (PF) depicting PF percentage 2.63 and Slide Positivity Rate for PF 0.11%. (Figure 2)

Figure 2

Figure 3

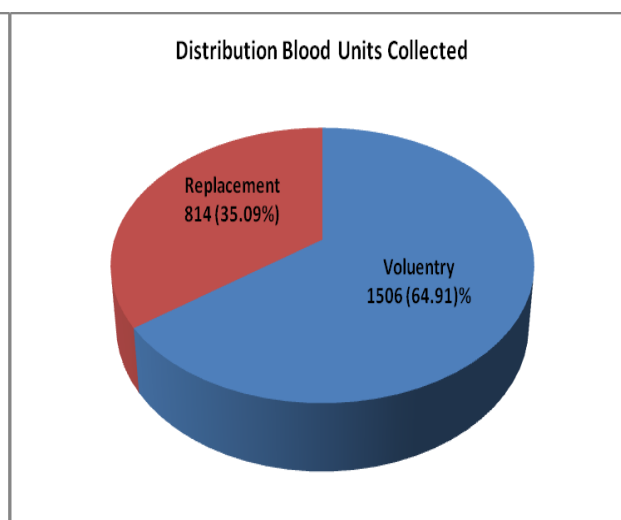
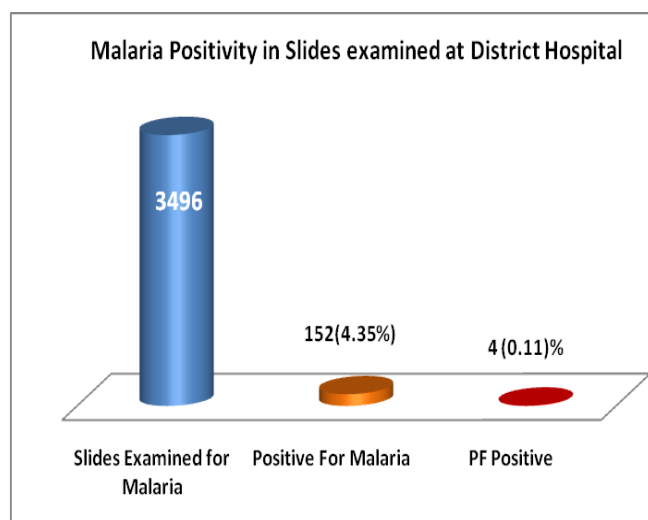
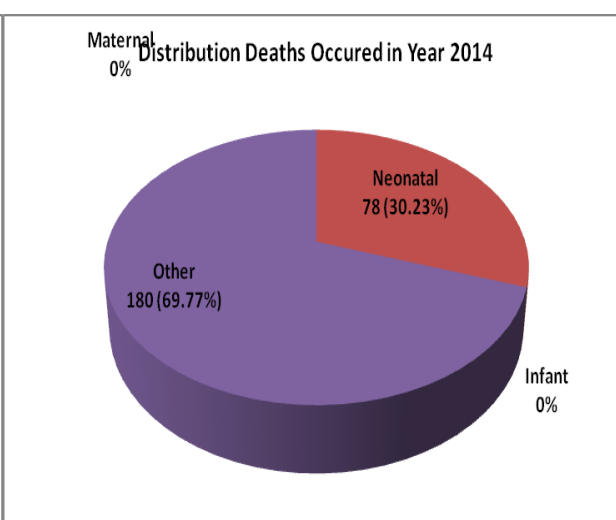
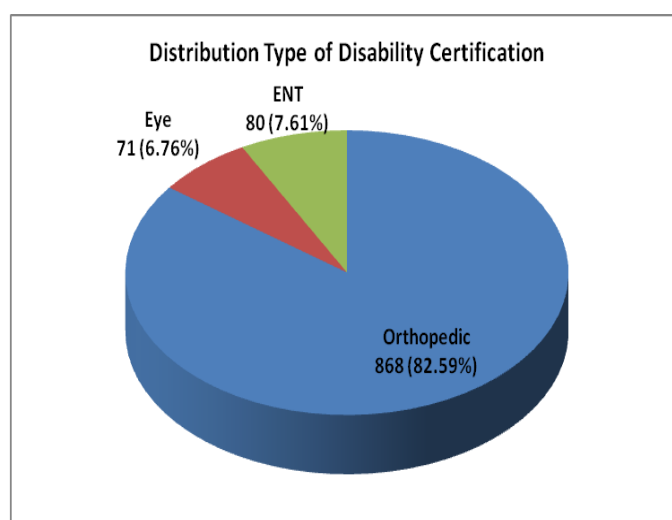


Figure 4

Figure 5



Among total 2320 blood units collected was unites, out of that 1506 (64.91%) was voluntary remaining was on replacement basis. (Figure 3). Likewise, total 1051 disability certifications were done, out of that majority (868 i.e. 82.59%) were for orthopedic disability followed by ENT and Eye disability. (Figure 4)

Among total 258 deaths occurred in this district hospital in year 2014, about one third i.e. 78 (30.23%) deaths were of neonates and fortunately none of maternal and infant death has occurred. (Figure 5).

Among 3623 total various surgeries performed at district hospital in year 2014 depicting 9.93 operations per day. Majority (3003 i.e. 82.89%) of these were minor operation followed by major surgeries in of surgery department, Minor eye operations, LTs, IOL, Tubectomies and NSVs. Plane cataract was done just one during the whole year. (Table 4)

Table 4

Surgical Procedures of District Hospital

S. No.	Surgical Procedures	Number of Surgeries	% of Surgeries
1	Minor Surgeries	3003	82.89
2	Major Surgeries	474	13.08
3	Plane Cataract	1	0.03
4	IOL	25	0.69
5	Minor Eye Surgeries	86	2.37
6	Tubectomies (TTs)	5	0.14
7	LTs	25	0.69
8	NSVs	4	0.11
	Total	3623	100.00

Regarding immunization beneficiaries, OPV & DPT of I, II, III dose was given to 1045, 1105 and 1083 beneficiaries respectively. Likewise measles and BCG were given to 908 and 4787 beneficiaries. 51 baneberries were benefitted for II dose of Measles. Regarding TT pregnant women, I, II and Booster dose was given to 1164, 562 and 436 beneficiaries respectively. (Table 5)

Table 5

Immunization Beneficiaries of District Hospital

S. No.	Immunization	Immunization Dose	Beneficiaries Load
1	OPV and DPT	I	1045
		II	1105
		III	1083
2	Measles	I	908
		II	51
3	BCG	I	4787
4	TT Pregnant Women	I	1164
		II	562
		Booster	436

Only Scheduled Immunizations included. Antirabies, Antisnake and other immunizations are not included

IV. DISCUSSION

This present study is to explore the patient load at district hospital in year 2014. OPD cases attended were 4,54,596 and 31706 were admitted in various wards of hospital having Outdoor: Indoor ratio 14.34. Total operations 3401 were done in year 2014. Majority i.e. 3019 (89.06%) of operations done in surgery department followed by sterilizations and eye operations. 1605 ANC's were attended in hospital those were in addition to OPD cases. Likewise 1404 Medico legal cases (MLCs) and 218 post-mortem was conducted at district hospitals that is also additional to OPD cases. Blood units collected at blood bank was 2320 units and disability certification was done of 1051 individuals which was also in addition to patient care. Bed occupancy of this hospital was 333.64 and average duration of hospital stay of patients was 3.2 days.

Among various 493759 investigations done at district hospital in year 2014, laboratory tests were maximum i.e. 92.07% followed by X-Rays, ECG and USG .

During year 2014, total 3496 blood slides were examined for malaria in this hospital. Out of these 3496 blood slides, 152 were found positive for malaria depicting Slide Positivity Rate 4.35%. Likewise it was also revealed that these 152 malaria positive includes 4 Plasmodium Falciparum (PF) depicting PF percentage 2.63 and Slide Positivity Rate for PF 0.11%.

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Among total 258 deaths occurred in this district hospital in year 2014, about one third i.e. 78 (30.23%) deaths were of neonates and fortunately none of maternal and infant death has occurred.

Among 3623 total various surgeries performed at district hospital in year 2014 depicting 9.93 operations per day. Majority (3003 i.e. 82.89%) of these were minor operation followed by major surgeries in of surgery department, Minor eye operations, LTs, IOL, Tubectomies and NSVs. Plane cataract was done just one during the whole year.

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These figure depict that there is quite heavy load on this district hospital. Other hospitals of Rajasthan⁵ are also overburdened but district hospitals of other state like Maharashtra⁶ Uttar Pradesh,⁷ Haryana,⁸ Punjab⁹ etc were not so burdened. This higher load of patients may be due to free investigation and treatment in public health system in Rajasthan. This fact is further supported by more patients load for investigation and treatment than load for other activities.

V. CONCLUSION

It was found in this study that district hospitals are overburdened with specially the patient load for diagnosis and treatment. Even patients for operations were also averaging 9.93 operations per day. Many other activities like MLCs, Postmortem, disability certification etc. increases this load. But fortunately no maternal and infant death occurred which depicted the quality care in this district hospital.

CONFLICT OF INTEREST

None declared till now.

REFERENCES

1. Barnum H., Kutzin J., Saxenian H. Incentives and Provider Payment Methods. International Journal of Health Planning and Management. 1995;10(1):23–45. [PubMed].
2. WHO (World Health Organization). 1990. The Role of the Hospital in the District—Delivering or Supporting Primary Health Care. Geneva: WHO.
3. WHO (World Health Organization). 1992. "The Hospital in Rural and Urban Districts." Report of a WHO Study Group on the Functions of Hospitals at the First Referral Level, WHO, Geneva. [PubMed]
4. WHO (World Health Organization). 1987. "Hospitals and Health for All." Report of the WHO Expert Committee on the Role of Hospitals at the First Referral Level, WHO, Geneva. [PubMed]
5. Department of Medical, Health & Family Welfare, Government of Rajasthan. Pragati Prativadan of Swasthya 2013-14. <http://www.rajswasthya.nic.in/>
6. Maharashtra Government Public Health Department. Annual Health Status 2013-14. <https://arogya.maharashtra.gov.in/1035>
7. Department of Medical, Health & Family Welfare, Government of Uttar Pradesh. Annual Health Status 2013-14. <http://uphealth.up.nic.in/>
8. Health Department of Haryana. Annual Health Status 2013-14. <http://haryanahealth.nic.in/>
9. Department of Health & Family Welfare, Government of Punjab. Annual Health Status 2013-14. <http://pbhealth.gov.in/>